



Fermilab

*BEAMS DIVISION/CRYOGENIC SYSTEMS
ENGINEERING and DESIGN GROUP*

Minutes from Friday, Nov 16 Muon Collider/Cryogenics Meeting

Place: Outfield Conference Room, MW9

Attendees: Milorad Popovic, Alex Martinez, Christine Darve, Arkadiy Klebaner, Dan Kaplan, Ed Black

Minutes Prepared by: Arkadiy Klebaner

1. Milorad asked to update on the status of open issues from the last meeting. Dan stated that the R=15 cm absorber is not included in the scope of the cryogenic tests at Fermilab.
2. There was a discussion about absorber nozzles location. Milorad was concern that nozzles will obstruct the beam. Dan stated that it is not a problem.
3. Christine presented pressure drop and relief calculations. Two cases were discussed: loss of insulating vacuum and fire conditions. The worst case is fire conditions, and require to relief 80 SCFM of Air.
4. There was a discussion regarding multiple failure scenarios. The cryo group will calculate a minimum thickness of the absorber cryostat beam windows for a double failure mode. Titanium will be assumed as windows material.
5. Arkadiy presented test results from the 14 and 20 K refrigerator test at F4. The test was design to verify model that was used to calculate the MuCool cycle, and see how stable the refrigerator is in this non-design mode. The results shown that predicted heat load for a given engine COP is within 5% from the actually measured. Also, the refrigerator was stable during all 96 hours of the test run.
6. Cryo will present absorber cryostat conceptual design in two weeks.

THE NEXT MEETING WILL BE ANOUNCED LATER.